

Commonwealth of Kentucky
Division for Air Quality
PERMIT STATEMENT OF BASIS

DRAFT

Conditional Major, Construction / Operating

Permit: F-09-008

Leggett & Platt, Inc.

Leitchfield, Kentucky 42754

Date: 2/24/2009

Elahe Houshmand, Reviewer

SOURCE ID: 21-085-00021

AGENCY INTEREST: 1567

ACTIVITY: APE20090001

SOURCE DESCRIPTION:

The Leggett & Platt's Leitchfield facility manufactures bedframes. Raw steel is processed (cut, stamped, pressed, etc.) and welded (EP 06) into bedframes. The bedframes are hung on a monorail conveyor that travels through one of two coating processes. First, the frames enter a two-stage washer (EP 05 or EP 09) for removal of oils and dirt. After a few minutes of drip dry, they enter either a flow coater (EP 01) or a dip tank (EP 08). Frames are coated with water based bake enamel, then frames are allowed to "flash off" for about 15 minutes at room temperature. Next, frames coated using flow coater process line 1 travel to a natural gas bake oven (EP 02) for curing and frames coated using dip tank process line 2 air dried. From the oven, frames are cooled by fans then moved to the final assembly area. A natural gas controlled pyrolysis furnace- burn-off oven (EP 07) is used to clean hooks and racks that have been coated with paint.

COMMENTS:

On February 9, 2009, the source applied to the Division for the construction /operation of a new water based dip tank paint line at Leggett & Platt's Leitchfield facility. The source is currently operating under the state origin permit # S-02-006, however after adding this new paint line, the VOC potential emissions would go over the major source threshold levels. To prevent the facility from being classified as a major source, the permittee has requested to have a Conditional Major Source permit with VOC emissions limit of 90 tons per year. In addition to VOC limit, the source is requesting to have in the HAP limits equal to their potential emissions. These limits are 7.43 tons per year and 9.0 tons per year for single HAP and combined HAPs, respectively.

TYPE OF CONTROL AND EFFICIENCY:

The most significant sources of potential emissions are VOC from the flow coater (EP 01) and dip tank (EP 08) process lines. There is no control for VOCs and are assumed emitted to the atmosphere.

EMISSION FACTORS

Material balance
Engineering calculations
AP-42, for natural gas combustion

APPLICABLE REGULATIONS:

401 KAR 59:010, New Process Operation, is applicable to each affected facility or source, associated with process operations, which are not subject to another emission standard with respect to particulate matter emissions commenced after July 2, 1975.

40 CFR 60, Subpart EE, Standards of Performance for Surface Coating of Metal Furniture (applicable to each affected facility commenced on or after November 28, 1980).

401 KAR 63:020-Potentially hazardous matter or toxic substances applies to all toxic air emissions.

EMISSION AND OPERATING CAPS DESCRIPTION:

40 CFR 60, Subpart EE, VOC emissions will be controlled within the constraints of regulation of 40 CFR 60, Subpart EE by controlling the formulation of paint used so that VOC content is less than 0.90 Kg per Liter of coating solids applied. The owner or operator shall submit a written report every calendar quarter of each instance in which the volume-weighted average of the total mass of VOC's emitted to the atmosphere per volume of applied coating solids is greater than 0.9 kilogram per liter of coating solids applied. If no such instances have occurred during a particular quarter, a report stating this shall be submitted semiannually.

401 KAR 59:010, New process operations, Section 3

1. Visible emissions shall not equal or exceed 20% opacity for each applicable process.
2. Particulate matter emissions shall not exceed 2.34 pounds/hour for each applicable process.

Conditional Major Emission Limitation

Leggett & Platt, Inc. located in Leitchfield, KY has requested voluntary permit limits of less than 90.0 tons per year of volatile organic compounds (VOC), 7.43 tons per year of individual hazardous air pollutant (HAP) and 9.0 tons per year of combined HAPs.

TOXIC ANALYSIS:

Air Toxics:

The Division for Air Quality (Division) has performed air dispersion model screening of potentially hazardous substances that may be emitted by the facility based upon the process rates, material formulations, stack heights and other pertinent information provided by the applicant. Based upon this information, the Division has determined that the conditions outlined in this permit will assure compliance with the requirements of 401 KAR 63:020. In particular, a screening level assessment coupled with an assessment of the target organ endpoints of ethylene glycol monobutyl ether and diethylene glycol monobutyl ether has been conducted and the endpoints for each chemical were

found to not be comparable. Thus emissions ethylene glycol monobutyl ether and diethylene glycol monobutyl ether of do not substantiate an unacceptable hazard at an ambient concentration of 233 ug/m³ and 18 ug/m³ respectively.

PERIODIC MONITORING:

The permittee shall maintain monthly records of the usage of any VOC/HAP containing material. VOC/HAP emissions shall be calculated and recorded on a *monthly* basis. These records shall be summarized in tons per month VOC/HAP emissions; subsequently, tons of VOC/HAP emissions per rolling 12-month period shall be recorded. In addition, these records shall demonstrate compliance with VOC/HAP emission limitations listed herein for the conditional major limitations. For more details regarding all monitoring requirements, see the permit.

CREDIBLE EVIDENCE:

This permit contains provisions which require that specific test methods, monitoring or recordkeeping be used as a demonstration of compliance with permit limits. On February 24, 1997, the U.S. EPA promulgated revisions to the following federal regulations: 40 CFR Part 51, Sec. 51.212; 40 CFR Part 52, Sec. 52.12; 40 CFR Part 52, Sec. 52.30; 40 CFR Part 60, Sec. 60.11 and 40 CFR Part 61, Sec. 61.12, that allow the use of credible evidence to establish compliance with applicable requirements. At the issuance of this permit, Kentucky has only adopted the provisions of 40 CFR Part 60, Sec. 60.11 and 40 CFR Part 61, Sec. 61.12 into its air quality regulations.